PROJECT MEMO

TO:	Ms. Stacey Rush, PE City of Issaquah	**DATE:**	August 20, 2021
FROM:	Todd Sawin, PE Tacoma - (253) 383-2422	**PROJECT NO.:**	2180412.10
		PROJECT NAME:	Issaquah High School #4 and Elementary School #17
SUBJECT:	Issaquah TIR / Sammamish TIR Discussion		

The purpose of this memo is to discuss why two separate Technical Information Reports (TIR) have been submitted for the Issaquah High School #4 and Elementary School #17 project for Issaquah School District No. 411. Improvements proposed as part of the Issaquah High School and Elementary School project are located within two separate jurisdictions, the City of Issaquah and the City of Sammamish. These two jurisdictions each have their own stormwater management standards with separate design manuals, specifications, details, and TIR requirements. Two separate TIRs are required for the proposed school improvements because while the project site is located within the City of Issaquah, the site is fronted by 228th Ave SE which is a City of Sammamish right-of-way. Onsite improvements have been designed to meet City of Issaquah stormwater requirements while the proposed frontage improvements in the 228th Ave SE right-of-way have been designed to meet the City of Sammamish stormwater requirements.

The proposed Issaquah High Scholl and Elementary School project site is located at 4221 228th Ave SE, Issaquah, Washington 98029. A TIR has been prepared to demonstrate that the onsite stormwater design for this project meets the requirements of the Washington State Department of Ecology (DOE) *2012 Stormwater Management Manual of Western Washington as Amended in December 2014* (*SMMWW*) and the City of Issaquah *2017 Stormwater Design Manual Addendum* (*ISDMA*).

Frontage improvements are required as part of the proposed Issaquah High School and Elementary School project due to increased transportation demand to the project site. As stated above, the site is fronted by the 228th Ave SE right-of-way which is located within the City of Sammamish. A TIR has been prepared to demonstrate that the onsite stormwater design for this project meets the requirements of the *2016 King County Surface Water Design Manual* (*KCSWDM*) as amended by the City of Sammamish *Addendum to the 2016 King County Surface Water Design Manual (Revised 2/25/2019)* (*SASWDM*).

A portion of the proposed onsite improvements, the northeast basin, discharges runoff to the 228th Ave SE right-of-way and into a City of Sammamish public stormwater sewer conveyance system; this matches the existing basin characteristics of the project site. Onsite, City of Issaquah, stormwater does not enter this City of Sammamish public stormwater conveyance system until it passes through onsite, privately owned and maintained detention facilities for flow control as well as water quality treatment per City of Issaquah stormwater standards. Offsite, City of Sammamish, stormwater from the 228th Ave SE right-of-way passes through a proposed detention facility and water quality facilities prior to discharging into the existing City of Sammamish stormwater conveyance system and combining with the above-mentioned runoff from onsite.

While, the onsite and offsite storm designs are governed by separate jurisdictions and stormwater manuals it should be noted that stormwater impacts for the entire project has been evaluated as whole as required by both stormwater manuals. Additionally, since existing and proposed stormwater discharges pass from the City of Issaquah through the City of Sammamish and a portion of the existing City of Issaquah property will be transferred to the City of Sammamish as Right-of-way, it is not possible to evaluate individually. As noted in section 3.1.2 of the onsite TIR and section 3.0 of the frontage TIR, Laughing Jacobs Creek is the ultimate discharge location for all runoff generated on and offsite. A comparison of the stormwater flow control and treatment goals required by each jurisdiction along with the provided design are shown in Tables 1 and 2 below.

Conclusion: The existing site and frontage is partially developed and directs untreated and unmitigated stormwater runoff to existing drainage systems in the adjacent Providence Point development as well as the 228th Ave. frontage. Both of these existing systems ultimately discharge this unmitigated and untreated stormwater runoff to Laughing Jacobs Creek. The proposed storm drainage systems will treat and mitigate runoff to meet or exceed the jurisdictional requirements and direct majority of the stormwater flows away from the existing Providence Point stormwater system toward the 228th Ave./43rd Way stormwater systems. The portion of the existing system along the frontage will be upgraded to treat, mitigate and convey stormwater from the development in accordance with all jurisdictional requirements.

Table 1: Flow Control Comparison

Jurisdiction	Requirement	Provided
Issaquah	Stormwater discharges shall match developed discharge durations to pre-developed durations for the range of pre-developed discharge rates from 50% of the 2-year peak flow up to the full 50-year peak flow. The pre-developed condition to be matched shall be a forested land cover.	Flow control requirement has been met. Refer to section 6.2 of the onsite TIR for additional information.
Sammamish	Conservation Flow Control (Level 2): Stormwater discharges shall match developed discharge durations to predeveloped durations for the range of predeveloped discharge rates from 50% of the 2-year peak flow up to the full 50-year peak flow. Also match developed peak discharge rates to predeveloped peak discharge rates to rates for the 2- and 10-year return periods. Assume historic site conditions as the predeveloped condition. Historic site conditions are assumed to be forest cover.	Flow control requirement has been met. Refer to section 4.1 of the Frontage TIR for additional information.

Table 2: Stormwater Treatment Comparison

Jurisdiction	Requirement	Provided
Issaquah	Phosphorous Treatment (50% Phosphorous removal) Enhanced Treatment (30% Copper and 60% Zinc removal) **WQ Design Flow Rate**: Full 2-year release rate from the detention facility	A mechanical Treatment device approved by WSDOE for general use that meets/exceeds the requirements for Phosphorous and Enhanced Treatment. The published DOE removal rates of the product selected provides the following reductions: 80% Reduction of Total Suspended Solids 60% Reduction of dissolved Zinc 30% Reduction of dissolved Copper 50% or greater Reduction of total Phosphorous Refer to section 6.1 of onsite TIR for additional information.
Sammamish	**Sensitive Lake Protection Treatment**: Phosphorous Treatment (50% Phosphorous Removal) **WQ Design Flow Rate**: Full 2-year release rate from the detention facility	A mechanical Treatment device approved by WSDOE for general use that meets/exceeds the requirements for Phosphorous and Enhanced Treatment. The published DOE removal rates of the product selected provides the following reductions: 80% Reduction of Total Suspended Solids 60% Reduction of dissolved Zinc 30% Reduction of dissolved Copper 50% or greater Reduction of total Phosphorous Refer to section 4.2 of the Frontage TIR for additional information.

CHS/

c: Tom Mullins, ISD
Jordan Kiel, Bassetti

Q:\2018\2180412\10_CIV\NON_CAD\REPORTS\20210701_TIR Discussion Memo - 2180412.10.docx